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EXAMINER

TON, ANTHONY T

ART UNIT	PAPER NUMBER
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2661

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/749,193

Applicant(s)

TANG, HARRY

Examiner

Anthony T Ton

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTIONS

### Drawings

1. The drawings are objected to because of the following informalities:

- a) **Block 330 in Fig. 3** is redundant because the condition “**Is n < X?**” listed in **block 310** was already satisfied for the condition “**Is n >= X?**” listed in the **block 330**.

Examiner suggests deleting this **block 330** from **Fig.3**.

- b) The formula inside **block 320 in Fig.3** is improper since both minus sign “-” and plus sign “+” have applied before the variable “**Mpos**”. This must be a typo.

Therefore, Examiner suggests deleting the minus sign “-” from the formula, and the formula inside the block 320 becomes: **VCI = 33 + (n-1) \* 8 + Mpos**

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

2. The disclosure is objected to because of the following informalities:

- a) The following disclosure from **page 9 line 18 to page 10 line 1** of the **Pre-amendment** filed on 8-10-2001, which is used to support the Block 330 in Fig.3, should be removed from the specification: “**processing proceed to block 330 - - - if the sequence number is greater than or equal to the pre-determined parameter X,**” since the block 330 in Fig.3 is redundant, and Examiner suggested to remove such a block from Fig.3.

Therefore, Examiner also suggests deleting the above disclosure from the specification to incorporate the deletion of the block 330 in Figure 3.

b) Referring to **page 10 line 1** of the **Pre-amendment** filed on 8-10-2001, term “VIC” should be changed to “VCI” since the term is not proper.

c) Referring to **page 10 line 3** of the **Pre-amendment** filed on 8-10-2001, the formula  $VCI = 33 + [\text{mod} ((n-1)/(X-1)) - 1 * 8 + M_{pos}]$  is not appropriate since the formula is lack of a closed bracket “]” after the “1”. Therefore, Examiner suggests changing the formula as shown:  $VCI = 33 + [\text{mod} ((n-1)/(X-1)) - 1] * 8 + M_{pos}$

Appropriate correction is required.

### ***Claim Objections***

3. **Claims 4, 5, 11-17, 21, 22, 25** and **27** are objected to because of the following informalities:

a) Term “**RAM**” in **Claim 4** line 2 is not appropriate with term “**RAMS**” in line 4. Examiner suggests changing this term to “**RAMS**”.

b) Term “**at any one given time**” in **Claim 5** line 3 is not appropriate. Examiner suggests changing this term to “**at any given time**” to correct minor grammatical errors.

c) Term “**the acts**” in **Claim 11** line 2, in **Claim 16** line 2, in **Claim 21** line 2, and in **Claim 22** line 5 is not suitable for a claimed language of claims.

Examiner suggests changing this term to “**the steps**”.

d) Term “**the act**” in **Claim 12** line 1 (two places), in **Claim 13** lines 1 and 2 (two places), in **Claim 14** lines 1 and 2 (two places), in **Claim 15** lines 1 and 2 (two places), in **Claim 25** line 1, and in **Claim 27** line 1 is not suitable for a claimed language of claims.

Examiner suggests changing this term to “**the step**”.

e) Term “**said network management system (NMS)**” in **Claim 12** lines 2-3 is not appropriate since an abbreviation for the term “**network management system**” was given and used in **Claim 11** in line 3 and in line 6, respectively.

Examiner suggests changing this term to “**said NMS**”.

f) Term “**said virtual circuit identifier (VCI)**” in **Claim 14** lines 2-3 is not appropriate since an abbreviation for the term “**virtual circuit identifier**” was given and used in **Claim 13** in line 2 and in line 3, respectively.

Examiner suggests changing this term to “**said VCI**”.

g) A colon “,” should be added into term “**(CO DSLAM) a method**” in **Claim 17** line 3 to make the preamble of this claim more clearly.

Examiner suggests adding a colon “,” into this term as shown “**(CO DSLAM), a method**”.

h) Abbreviations “**DSLAM**” and “**RAMs**” in **Claim 22** line 1 is undefined since the “**RAM**” can be confused with the popular term **Random Access Memory (RAM)**.

Therefore, Examiner suggests changing the term “**DSLAM, a plurality of RAMs**” in line 1 of this claim to “**digital subscriber line access multiplexer (DSLAM), a plurality of remote access multiplexers (RAMs)**”.

i) Term “the value  $P * (n+1) + M_{pos}$ ” in **Claim 22** line 15 is not quite clear.

Examiner suggests changing this term to “the value of  $P * (n+1) + M_{pos}$ ”.

j) Term "**claim 25**" in **Claim 25** line 1 is not appropriate. This must be a typo. Examiner thinks that the "**25**" would be changed to "**24**". Therefore, when examining the **claim 25**, Examiner treats the **claim 25** as a dependent of the **claim 24**.

Examiner suggests changing this term to "**claim 24**".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. **Claims 2-16** and **22-27** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) **Claim 2** recites the limitation "**the virtual circuit identifier**" in line 2.

There is insufficient antecedent basis for this limitation in the claim.

b) **Claim 3** in line 3 and **Claim 4** in line 1 recite the limitation "**ADSL network values**". In line 10 of the abstract of the specification, the applicant uses the term "**ADSL configuration values**". It is not clear if they mean the same thing. Hence, we do not know the meets and bounds of these claims.

c) **Claim 4** in line 5 recites the limitation "**ADSL network capacity parameter**" is vague and indefinite since there is no any specific disclosure in the specification for such a limitation. What is a specific limitation for the "capacity parameter". In page 10 lines 2-3 in the specification, the applicant has mentioned about

the term “capacity”, but it is not clearly disclosed for the limitation “**ADSL network capacity parameter**”.

d) **Claim 7** recites the limitation “**the ADSL network components**” in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

e) **Claim 11** recites the limitation “**with the ability**” in line 3. There is insufficient antecedent basis for this limitation in the claim.

f) **Claim 22** recites the limitation “**the DSLAM input port position**” in line 9. There is insufficient antecedent basis for this limitation in the claim.

g) **Claim 22** recites the limitation “**the RAM input port**” in lines 12-13. There is insufficient antecedent basis for this limitation in the claim.

h) **Claim 26** recites the limitation “**the computed value is computed based on  $(n-1) \bmod X$  if  $X$  is greater than  $X$** ” in lines 1-2 is vague and indefinite. If in the case  $n = 124$  and  $X = 123$ , then the  $(n-1) \bmod X$  will be  $= 0$ ; therefore, VCI will not be in the range from 33 – 1023 according to the claimed limitation that was claimed in the Claim 24. Furthermore, in page 10 lines 3 and 13 in the specification (pre-amendment filed on 8/10/2001), the applicant disclosed a formula relating to the limitation “ **$(n-1) \bmod (X-1)$** ”. Therefore, such a limitation “**the computed value is computed based on  $(n-1) \bmod X$  if  $X$  is greater than  $X$** ” of the claim is improper, it is meets and bounds.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1, 2, 7-9, 11, 12, 15 and 16** are rejected under 35 U.S.C. 102(e) as being anticipated by **Wang et al. (US Patent No. 6,636,505)**.

a) **In Regarding to Claim 1: Wang et al. (Wang) disclosed** a system to optimize resource planning for ADSL services (*see Fig.2*) comprising:

a network management system in communication with an ADSL network (*see Fig.4: 200 (NMS); and see col.5 lines 41-47, the network 60 (ADSL network)*); and

a computing application, said computing application operating on said network management system capable of allocating, tracking, and managing deterministic resource configuration variables that are used to create permanent virtual circuits on said ADSL network (*Wang disclosed pre-provisioned connections, one or more application on the user's CPE 110 (see Fig. 4) are provided with information about the configuration of the ATM UNI on ADSL interfaces (hence, a computing application). This information preferably includes an identification of which permanent virtual circuit (PVC) serves, for example, mapping from the virtual path identifier (VPI) / virtual channel identifier (VCI) (hence, VPI/VCI are resource configuration variables) to a service provider ID (e.g. service provider 100 in Fig.4), and the ATM quality of service (QoS) parameters of the connection to each service provider 100. In other words, the CPE 110 is configured to associate the appropriate network resources, such as the PVC and QoS parameters, with the service provider 100 that is accessible*



*through those resources (hence, allocating, tracking and managing deterministic resource configuration variables). See col.8 lines 3-20).*

**b) In Regarding to Claim 2: Wang further disclosed** the deterministic resource configuration variables comprise a virtual circuit identifier configuration variable (*see col.8 lines 6-9, VCI*).

**c) In Regarding to Claim 7:** the system recited in claim 1, wherein said NMS cooperates with said ADSL network using an element management system (*see col.9 line 36-55, Element Management System*), said EMS capable of communicating with the ADSL network components using ADSL network component communication protocols and standards (*see col.11 line 36 – col.12 line 12, DSLAM 90 and service provider 100 (network components), service profile, service object, and service object(ADSL protocols and standards)*).

**d) In Regarding to Claim 8: Wang further disclosed** that the NMS accepts subscriber information from a service order management system for use in allocating, tracking, and managing said deterministic resource configuration variables for use when creating permanent virtual circuits on said ADSL network (*see col.5 lines 30-48: the subscriber order service from the network service provider 30*).

**e) In Regarding to Claim 9: Wang further disclosed** that the NMS uses said deterministic configuration variables to reanimate hung permanent virtual connections (*see col.11 lines 1-34: In which, Wang disclosed a software “atmf\_Service Registry\_ATM\_address” that contains the VPI/VCI combination to setup and control the PVC connected from a service provider to a CPE*).

f) **In Regarding to Claim 11:** this claim is rejected for the same reasons as **Claim 1** because the apparatus in **Claim 1** can be used to practice the method steps of **Claim 11**.

g) **In Regarding to Claim 12:** Wang further disclosed that the method further comprises the act of providing a computing application to operate on said NMS, said computing application creating, managing, and communicating deterministic configuration variables to cooperating ADSL network components for the provisioning of resources (*See col.8 lines 3-20, VPI/VCI (configuration variables)*).

h) **In Regarding to Claim 15:** Wang further disclosed that the step of providing said communications means further comprises the step of coupling said NMS to an element management system (EMS), said NMS cooperating with said EMS to communicate said created deterministic configuration variables to said cooperating ADSL components (*see Fig.5: the operations from USR to NMS*).

i) **In Regarding to Claim 16:** Wang further disclosed a computer readable storage medium comprising computer-executable instructions for instructing a computer to perform the steps recited in claim 11 (*see Fig.6 and see col.26 lines 19-42: software modules and software instructions*).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 3-6, 17 and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wang et al. (US Patent No. 6,636,505)**.

a) **In Regarding to Claim 3: Wang disclosed** all aspects of the Claim 3 as set forth in the Claims 1 and 2 above. **Wang failed to explicitly disclosed** an ADSL system, in which, a VCI configuration variable is calculated by a computing application using at least one algorithm, said at least one algorithm employing ADSL configuration network values to calculate said VCI configuration variable. **However, Wang disclosed a preferred embodiment with suggestions using a default VCI/VPI on sub-channels as transmission medium for transmitting the provisioning data from ADSL Terminal Unit Central to ADSL Terminal Unit Remote; with the default VCI that means there was a hidden calculation in the invention of Wang to obtain such a default VCI (see col.6 lines 13-14). In addition, Wang disclosed one or more application on user's CPE, which are provided with information about the configuration of ATM user network interface on the ADSL interface, and this information preferably includes a VCI variable via a permanent virtual connection (PVC) (see col.8 lines 3-10). Furthermore, Wang disclosed a Table that lists the available services profile after ADSL provisioning. In which, the service profile such as VPI/VCI are stored in the ATU-R (see col.25 lines 39-54).**

**Therefore, it would have been obvious** to one of ordinary skill in the art at the time of the invention was made to provide such at least one algorithm employing ADSL configuration network values to calculate the VCI configuration variable

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throughout the default VCI and one or more application on user's CPE as well as the storing Table of **Wang** so that a connection between an ISP and CPE can be installed properly, **the motivation being** to make Wang more efficient.

**b) In Regarding to Claim 4: Wang further disclosed** that the ADSL network values comprise any of the following: port position of cooperating remote access multiplexers of said ADSL network, the port position of central office digital subscriber line access multiplexer of said ADSL network, the connection position of said cooperating remote access multiplexers on said ADSL, and an ADSL network capacity parameter (*see col.12 lines 1-12: local port identifier, local DSLAM identifier, service list*). **It would have been obvious** for the same reason as set forth in Claim 3.

**c) In Regarding to Claim 5: Wang further disclosed** that the ADSL network capacity parameter is determined from the range of allowable VCI values that can be allocated on the ADSL network at any one given time (*see col.23 line 51-54: the number of VPI/VCI and PVC fields are variables and depending on provisioned PVCs*). **It would have been obvious** for the same reason as set forth in Claim 3.

**d) In Regarding to Claim 6: Wang disclosed** all aspects of the Claim 6 as set forth in the Claims 1-5 above. **Wang failed to explicitly disclosed** the ADSL network capacity parameter is determined using VCI values in a range from 33 to 1023.

**However, Wang disclosed** the length (number of bits) for both VPI and VCI is 24 bits (*see col.11 line 66*); and furthermore, Wang specified the field of VCI can be varied from 10 bits to 27 bits. With these 10 bits, Wang can provide the values of VCI in a range from 0-1023 as that of the instant claim. (*see Table 6 in col.25 lines 42-54*).

**Therefore, it would have been obvious** to one of ordinary skill in the art at the time of the invention was made to implement such a range for VCI throughout the field of VCI of **Wang** so that a port that utilizes any appropriate VCI value can be used to make a connection between an ISP and CPE, **the motivation being** to maximize availability and serviceability.

e) **In Regarding to Claim 17: Wang disclosed** an ADSL network comprising a network management system (*see Fig.5: NMS*), an element management system (*see Fig.5: EMS*), at least one remote access multiplexer (*see Fig.5: CPE*), and at least one central office digital subscriber line access multiplexer (*see Fig.5: DSLAM*), a method to provision resources on said ADSL network comprising the step of:

communicating said calculated deterministic configuration variables to said ADSL network by said NMS using said EMS, said EMS being communicatively coupled to said RAM and CO DSLAM (*see Fig.5: the operations from USR to NMS*).

**Wang failed to explicitly disclosed** the step of calculating deterministic configuration variables by said NMS. **However, Wang disclosed** a preferred embodiment with suggestions using a **default VCI/VPI** on sub-channels as transmission medium for transmitting the provisioning data from ADSL Terminal Unit Central to ADSL Terminal Unit Remote; with the default VCI that means there was a hidden calculation in the invention of Wang to obtain such a default VCI (*see col.6 lines 13-14*). **In addition, Wang disclosed** one or more application on user's CPE, which are provided with information about the configuration of ATM user network interface on the ADSL interface, and this information preferably includes a VCI variable via a permanent virtual connection (PVC) (*see col.8 lines 3-10*).

***Furthermore, Wang disclosed a Table that lists the available services profile after ADSL provisioning. In which, the service profile such as VPI/VCI are stored in the ATU-R (see col.25 lines 39-54).***

**Therefore, it would have been obvious** to one of ordinary skill in the art at the time of the invention was made to provide such a step of calculating deterministic configuration variables by said NMS throughout the default VCI and one or more application on user's CPE as well as the storing Table of **Wang** so that a PVC between an ISP and CPE can be provisioned efficiently, **the motivation being** to make Wang more efficient and more reliable.

f) **In Regarding to Claim 21:** a computer readable storage medium comprising computer-executable instructions for instructing a computer to perform the acts recited in claim 17 (*see Fig.6 and see col.26 lines 19-42: software modules and software instructions*). **It would have been obvious** for the same reason as set forth in Claim 17.

#### ***Allowable Subject Matter***

10. **Claims 10, 13, 14 and 18-20** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


11. **Claims 22-27** would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Anthony T Ton** whose telephone number is 703-305-8956. The examiner can normally be reached on M-F: 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Olms can be reached on 703-305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ATT 3/20/2004

  
**KENNETH VANDERPUYE**  
**PRIMARY EXAMINER**